CSE-484
Assignment-4

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 Section:01

1- Install RabbitMQ
2-Start RabbitMQ
3- Install Python3
4- Install Python3-pip
5- Install pip command
6-Install pika
7- Create send.py using nano command
8- Create receive.py using nano command
9- Run both command
10- Create work.py using nano command
11- Create new_task.py using nano command
12- Run both command.

```
sadman@Sakib-19101125:~$ sudo apt-get update
[sudo] password for sadman:
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Hit:2 http://bd.archive.ubuntu.com/ubuntu jammy InRelease
Get:3 http://bd.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [453 kB]
Get:5 http://bd.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:6 http://bd.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [620 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1,394 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [243 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1,773 kB]
Get:10 http://bd.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1,612 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [300 kB]
Get:12 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [848 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/universe i386 Packages [601 kB]
Get:14 http://bd.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [304 kB]
Get:15 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [163 kB]
Get:16 http://bd.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [311 kB]
Get:17 http://bd.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages [701 kB]
Get:18 http://bd.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,072 kB]
Get:19 http://bd.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [245 kB]
Get:20 http://bd.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:21 http://bd.archive.ubuntu.com/ubuntu jammy-backports/main i386 Packages [59.3 kB]
Get:22 http://bd.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [27.2 kB]
Get:23 http://bd.archive.ubuntu.com/ubuntu jammy-backports/universe i386 Packages [16.0 kB]
Fetched 11.1 MB in 5s (2,227 kB/s)
Reading package lists... Done
sadman@Sakib-19101125:~$ sudo apt-get install rabbitmq-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  erlang-asn1 erlang-base erlang-crypto erlang-eldap erlang-ftp
  erlang-inets erlang-mnesia erlang-os-mon erlang-parsetools
  erlang-public-key erlang-runtime-tools erlang-snmp erlang-ssl
```

```
Done.
Adding system user `rabbitmq' (UID 132) ...
Adding new user `rabbitmq' (UID 132) with group `rabbitmq' ...
Not creating home directory `/var/lib/rabbitmq'.
Created symlink /etc/systemd/system/multi-user.target.wants/rabbitmq-server.service → /lib/systemd/system/rabbitmq-server.service.
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.7) ...
sadman@Sakib-19101125:~$ sudo service rabbitmq-server start
sadman@Sakib-19101125:~$ sudo service rabbitmq-server status
● rabbitmq-server.service - RabbitMQ Messaging Server
     Loaded: loaded (/lib/systemd/system/rabbitmq-server.service; enabled>
     Active: active (running) since Sun 2024-05-05 12:20:22 +06; 1min 48s>
   Main PID: 2907 (beam.smp)
      Tasks: 23 (limit: 4900)
     Memory: 93.8M
        CPU: 4.087s
     CGroup: /system.slice/rabbitmq-server.service
             ├─2907 /usr/lib/erlang/erts-12.2.1/bin/beam.smp -W w -MBas a>
             ├─2918 erl_child_setup 65536
             ├─2969 inet_gethost 4
             └─2970 inet_gethost 4

৫ 05 12:20:17 Sakib-19101125 systemd[1]: Starting RabbitMQ Messaging Ser>
৫ 05 12:20:22 Sakib-19101125 systemd[1]: Started RabbitMQ Messaging Serv>
lines 1-15/15 (END)...skipping...
● rabbitmq-server.service - RabbitMQ Messaging Server
     Loaded: loaded (/lib/systemd/system/rabbitmq-server.service; enabled; vendor preset: enabled)
     Active: active (running) since Sun 2024-05-05 12:20:22 +06; 1min 48s ago
   Main PID: 2907 (beam.smp)
      Tasks: 23 (limit: 4900)
     Memory: 93.8M
        CPU: 4.087s
     CGroup: /system.slice/rabbitmq-server.service
             ├─2907 /usr/lib/erlang/erts-12.2.1/bin/beam.smp -W w -MBas ageffcbf -MHas ageffcbf -MBlmbcs 512 -MHlmbcs 512 -MMmcs 30>
             ├─2918 erl_child_setup 65536
             ├─2969 inet_gethost 4
             └─2970 inet_gethost 4
```

```
sadman@Sakib-19101125:~$ sudo apt install python3
[sudo] password for sadman:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3 is already the newest version (3.10.6-1~22.04).
python3 set to manually installed.
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 15 not upgraded.
sadman@Sakib-19101125:~$ sudo apt install python3-pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential
  dpkg-dev fakeroot g++ g++-11 gcc gcc-11 javascript-common
  libalgorithm-diff-perl libalgorithm-diff-xs-perl
  libalgorithm-merge-perl libasan6 libbinutils libc-dev-bin
  libc-devtools libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0
  libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl
  libgcc-11-dev libitm1 libjs-jquery libjs-sphinxdoc libjs-underscore
  liblsan0 libnsl-dev libpython3-dev libpython3.10-dev libquadmath0
  libstdc++-11-dev libtirpc-dev libtsan0 libubsan1 linux-libc-dev
  lto-disabled-list make manpages-dev python3-dev python3-distutils
  python3-lib2to3 python3-setuptools python3-wheel python3.10-dev
  rpcsvc-proto zlib1g-dev
Suggested packages:
  binutils-doc debian-keyring g++-multilib g++-11-multilib gcc-11-doc
  gcc-multilib autoconf automake libtool flex bison gcc-doc
  gcc-11-multilib gcc-11-locales apache2 | lighttpd | httpd glibc-doc
  git bzr libstdc++-11-doc make-doc python-setuptools-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential
```

mouse pointer inside or press Ctrl+G.

```
Setting up build-essential (12.9ubuntu3) ...
Setting up libpython3-dev:amd64 (3.10.6-1~22.04) ...
Setting up python3-dev (3.10.6-1~22.04) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.7) ...
sadman@Sakib-19101125:~$ pip install pika
Defaulting to user installation because normal site-packages is not writeable
Collecting pika
  Downloading pika-1.3.2-py3-none-any.whl (155 kB)
     155.4/155.4 KB 684.0 kB/s eta 0:00:00
Installing collected packages: pika
Successfully installed pika-1.3.2
sadman@Sakib-19101125:~$
```

```
  GNU nano 6.2                                          send.py
import pika

connection = pika.BlockingConnection(pika.ConnectionParameters('localhost'))
channel = connection.channel()

channel.queue_declare(queue='hello')

channel.basic_publish(exchange='', routing_key='hello', body='Hello World!')
print(" [x] Sent 'Hello World!'")

connection.close()
```

```
  GNU nano 6.2                                          receive.py *
import pika

def callback(ch,method,properties,body):
    print(" [x] Received %r" %body)

connection = pika.BlockingConnection(pika.ConnectionParameters('localhost'))
channel = connection.channel()

channel.queue_declare(queue='hello')

print(' [*] Waiting for messages. To exit press CTRL+C')
channel.basic_consume(queue='hello', on_message_callback=callback, auto_ack=True)

channel.start_consuming()
```

```
sadman@Sakib-19101125:~$ python333 send.py
python333: command not found
sadman@Sakib-19101125:~$ python3 send.py
python3: can't open file '/home/sadman/send.py': [Errno 2] No such file or directory
sadman@Sakib-19101125:~$ python3 send.py
 [x] Sent 'Hello World!'
sadman@Sakib-19101125:~$ 
```

```
sadman@Sakib-19101125:~$ python3 receive.py
 [*] Waiting for messages. To exit press CTRL+C
 [x] Received b'Hello World!'
```

```
  GNU nano 6.2                                          work.py
import pika
import time

def callback(ch,method,properties,body):
    print(" [x] Received %r"  % body)
    time.sleep(body.count(b'.'))
    print(" [x] Done")
    ch.basic_ack(delivery_tag=method.delivery_tag)

connection = pika.BlockingConnection(pika.ConnectionParameters('localhost'))
channel = connection.channel()
channel.queue_declare(queue='task_queue', durable=True)


channel.basic_qos(prefetch_count=1)
channel.basic_consume(queue='task_queue', on_message_callback=callback)


print(' [*] Waiting for messages. To exit press CTRL+C ')
channel.start_consuming()
```

```
  GNU nano 6.2                                          new_task.py
import pika
import sys

connection = pika.BlockingConnection(pika.ConnectionParameters('localhost'))
channel = connection.channel()
channel.queue_declare(queue='task_queue', durable=True)

message = ' '.join(sys.argv[1:]) or "Hello World!"
channel.basic_publish(
    exchange='',
    routing_key='task_queue',
    body=message,
    properties=pika.BasicProperties(
        delivery_mode=2, #make message persistent
    )
)

print(" [x] Sent %r" % message)
connection.close()
```

```
sadman@Sakib-19101125:~$ python3 work.py
 [*] Waiting for messages. To exit press CTRL+C
connectiON = Pika.bloCkingconnEctioN(pika.connectIOnparameteRs9'localhoSt'00

channel = connection.channel90

channel.queue-declare9queue='task-queue', durable=true0

 [x] Received b'Hello World!'
 [x] Done
 [x] Received b'Hello World!'
 [x] Done
```
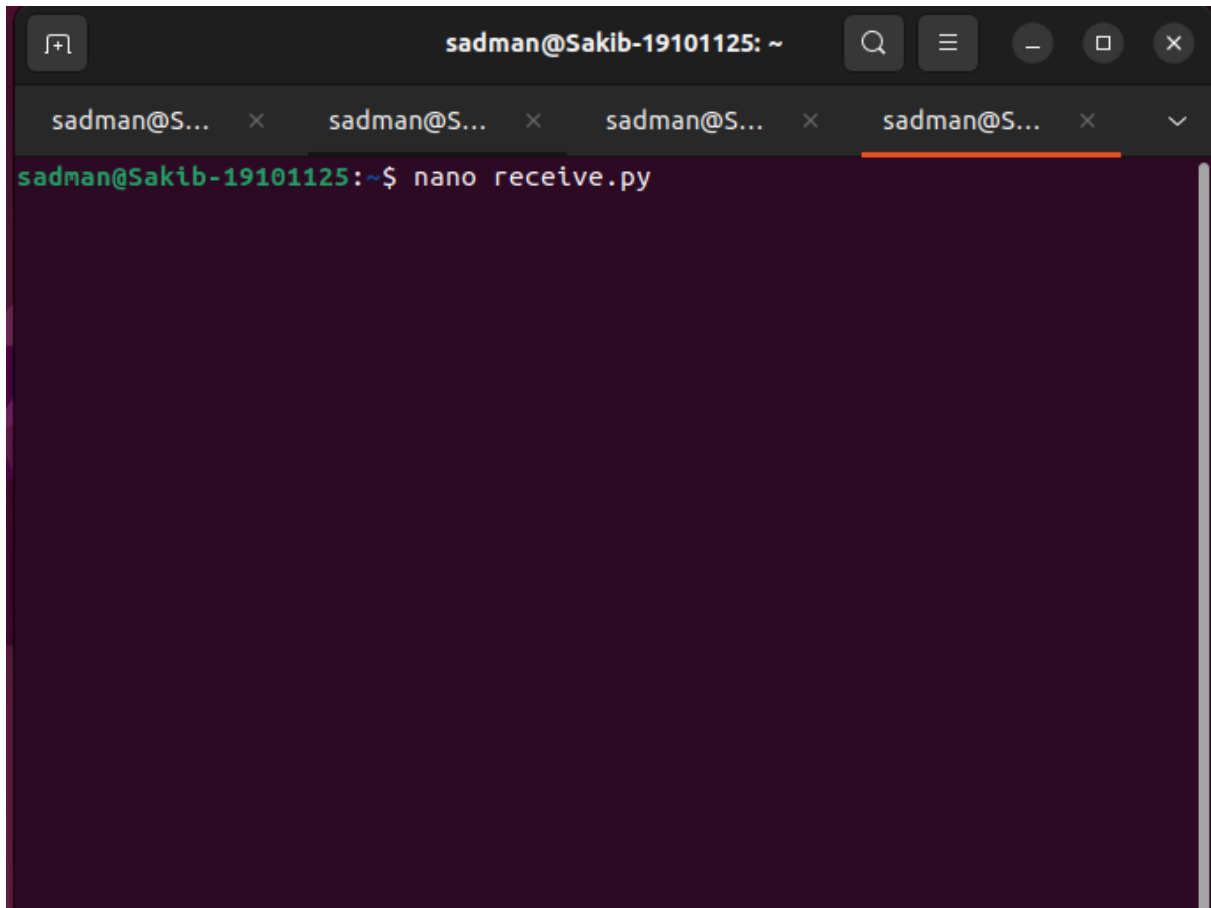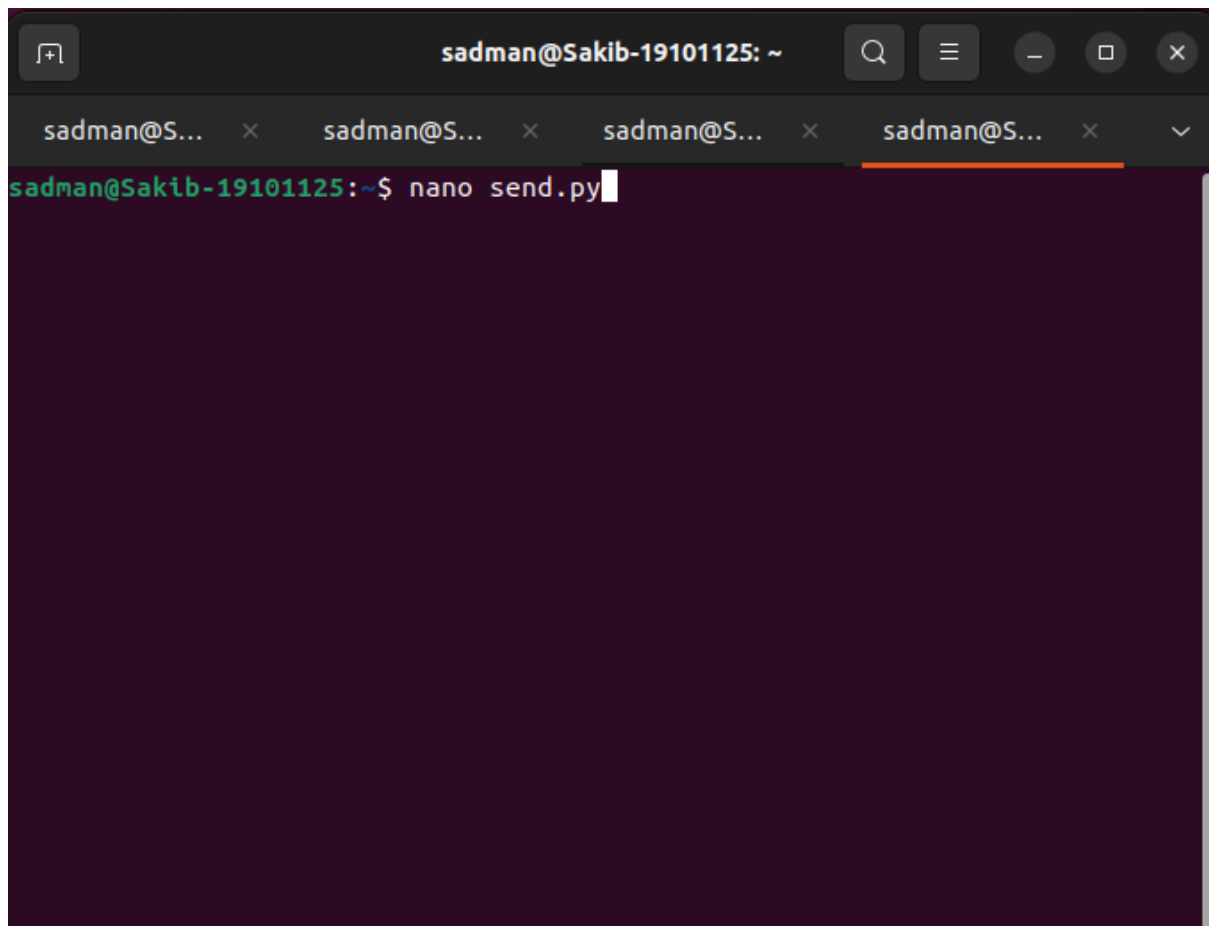
```
sadman@Sakib-19101125:~$ python3 new_task.py
  File "/home/sadman/new_task.py", line 10
    exchange=''
            ^^
SyntaxError: invalid syntax. Perhaps you forgot a comma?
sadman@Sakib-19101125:~$ python3 new_task.py
  File "/home/sadman/new_task.py", line 10
    exchange=''
            ^^
SyntaxError: invalid syntax. Perhaps you forgot a comma?
sadman@Sakib-19101125:~$ python3 new_task.py
 [x] Sent 'Hello World!'
Traceback (most recent call last):
  File "/home/sadman/new_task.py", line 19, in <module>
    sconnection.close()
NameError: name 'sconnection' is not defined. Did you mean: 'connection'?
sadman@Sakib-19101125:~$ python3 new_task.py
 [x] Sent 'Hello World!'
sadman@Sakib-19101125:~$
```
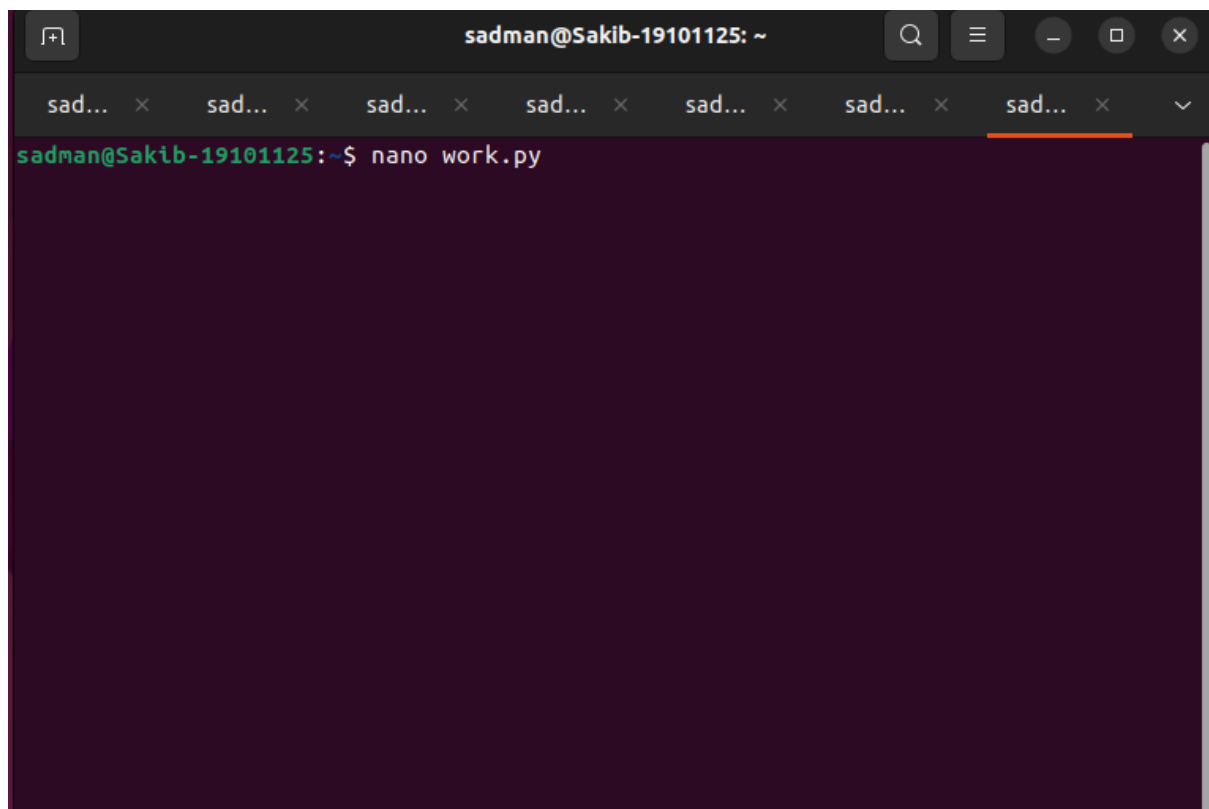
```
sadman@Sakib-19101125:~$ nano receive.py
```

sadman@S...   ×   sadman@S...   ×   sadman@S...   ×   sadman@S...   ×

```
sadman@Sakib-19101125:~$ nano send.py
```

sad... ×   sad... ×   sad... ×   sad... ×   sad... ×   sad... ×   sad... ×

```
sadman@Sakib-19101125:~$ nano work.py
```